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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,541	12/20/2001	Takayuki Araki	W-2382	4040

466 7590 11/04/2003

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EXAMINER

AHMED, SHEEBA

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 11/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

C107

Office Action Summary

Application No.

10/022,541

Applicant(s)

ARAKI ET AL.

Examiner

Sheeba Ahmed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment and Arguments

1. Applicants' response to the Office Action mailed on April 23, 2003 (Paper No. 4) has been entered in the above-identified application. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 5, 7, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kagohashi et al. (US 6,168,752) in view of Komagata et al. (US 5,714,238).

Kagohashi et al. disclose that conductive metallic powders are used in the manufacture of multilayer ceramic capacitors and nickel powders are particularly referred for such a use. Internal electrodes are required to be thin and hence ultrafine metal powders having diameters of 1 micron or less are used (Column 1, lines 14-23).

Kagohashi et al. do not specifically teach that the nickel powders used to make the internal electrodes of the ceramic capacitors are surface modified with a phosphate

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compound, a phosphite compound or a hypophosphite compound in an amount ranging from 0.01 to 1% by weight.

However, Komagata et al. disclose a conductive adhesive paste comprising conductive particles of nickel or nickel alloy surface treated with a phosphate derivative such as a phosphoric acid ester. The surface treatment is applied to the nickel particles in order to prevent increasing a relative resistivity (specific resistance) by oxidation of the metal particles at a high temperature (Column 1, lines 66-67, Column 2, lines 1-6 and Column 3, lines 21-28). The amount of the surface treating agent is 0.1 to 5% by weight based on the total weight of the metal particles to be supplied the surface treatment (Column 4, lines 60-67).

Accordingly, it would have been obvious to one having ordinary skill in the art to add a phosphate acid ester surface treatment to the surface of the nickel powders taught by Kagohashi et al. given that Komagata et al. specifically teach that doing so prevents an increase in the relative resistivity (specific resistance) of the metal particles at a high temperature.

3. Claims 3, 6, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kagohashi et al. (US 6,168,752) in view of Komagata et al. (US 5,714,238) and Iri et al. (US 5,272,223).

Kagohashi et al. and Komagata et al., as discussed above, do not teach that the phosphate, phosphite or hypophosphite compound is in the form of a titanate coupling agent.


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However, Iri et al. disclose surface treated metal powders (See Abstract) wherein the addition of a coupling agent to the composite metal particles can further improve properties such as adhesion, water resistance, chipping resistance. Examples of such coupling agents include titanate-coupling agents (Column 10, lines 20-29).

Accordingly, it would have been obvious to one having ordinary skill in the art to add a titanate coupling agent to the surface treatment of the nickel powders taught by Kagohashi et al. given that Iri et al. specifically teach that doing so can further improve properties such as adhesion, water resistance, chipping resistance.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (703)305-0594. The examiner can normally be reached on Mondays and Thursdays from 8am-6pm.


Sheeba Ahmed
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October 30, 2003